struck in disregard of the zeros, is totally misleading; while the account is no sooner made exhaustive than its anomalous character becomes largely modified. Yet it does not wholly disappear. There is some warrant for it in nature. And its warrant may perhaps consist in a preponderance, among suns endowed with high *physical* speed, of small, or slightly luminous, over powerfully radiative bodies. Why this should be so, it would be futile, even by conjecture, to attempt to explain.

A. M. Clerke.

NOTES.

The respect in which science is held in Germany was strikingly displayed on Tuesday, when Prof. Virchow celebrated his seventieth birthday. The occasion was regarded as one of national importance, and much honour was done to the investigator who, in the course of his great career, has given a fresh impetus to so many departments of research. In the morning, congratulations were offered to him in the large hall of the Kaiserhof Hotel, Berlin. The room was crowded with professors, academicians, and men of science from all parts of Europe; and on a long table were innumerable presents, medals, diplomas, and addresses. Short speeches were delivered on behalf of a series of deputations, the first of which was headed by Dr. Bartsch, one of the chief officials of the Ministry. A deputation, consisting of the professors of the Medical Faculty of the University of Berlin, and headed by Prof. Hirsch, the Dean, was followed by another from the Berlin Academy of Science, for which Prof. von Helmholtz spoke. Dr. von Forckenbeck, the Burgomaster of Berlin, heading a deputation from the Municipality of the capital, presented Prof. Virchow with the freedom of the city, referring gratefully to all that he had done to improve the health of the community. An address and medal, sent by English scientific bodies, were presented by Dr. Simon and Mr. Horsley, and then came congratulatory addresses from the Medical Faculties of many foreign cities, including Amsterdam, Brussels, Stockholm, St. Petersburg, Moscow, Pavia, and Tokio. The Virchow gold medal, for which contributions had been sent from all sections of the medical world, was presented by Prof. Waldeyer. Frau Virchow received a silver replica, and bronze copies were given to the other members of the family and to the scientific bodies which had subscribed for the medal. In the afternoon, a second meeting was held in the large hall of the Pathological Institute, where, as the Berlin correspondent of the *Times* says, "an almost endless procession of learned bodies and other corporations, presenting gifts and addresses, defiled before Prof. Virchow." The day's proceedings lasted from 10 a.m. to 4 p.m.; but it was noted, we are glad to say, that Prof. Virchow "seemed in no way fatigued by his exertions." More speeches were delivered in the evening, when a "Commers," or reunion, of his friends and admirers was held in Kroll's Theatre.

The ordinary general meeting of the Institution of Mechanical Engineers will be held on Wednesday evening, October 28, and Thursday evening, October 29, at 25 Great George Street, Westminster. The chair will be taken at half-past seven p.m. on each evening by the President, Mr. Joseph Tomlinson. The ballot lists for the election of new members, associates, and graduates having been previously opened by the Council, the names of those elected will be announced to the meeting. The nomination of officers for election at the next annual general meeting will take place. The following papers will be read and discussed, as far as time permits:—On some details in the construction of modern Lancashire boilers, by Mr. Samuel Boswell (Wednesday); First Report to the Alloys Research Committee, by Prof. W. C. Roberts-Austen, C.B., F.R.S. (Thursday).

The anniversary meeting of the Mineralogical Society will be held in the apartments of the Geological Society, Burlington House, on Tuesday, November 10, at 8 p.m.

The International Congress of Analytical Chemists and Microscopists met at Vienna on October 12 and 13. The subject discussed was the adulteration of food-stuffs.

Great preparations are being made for the meeting of the Australasian Association for the Advancement of Science which is to be held at Hobart, Tasmania, in January next. It is expected that the meeting will be most successful. The members of the Royal Society of Tasmania are congratulating themselves that Mr. Giffen, the eminent statistician and political economist, proposes to attend the meeting and to read a paper. His Excellency Sir R. G. C. Hamilton, who will preside, tried some time ago to secure the presence of Prof. Huxley also. Prof. Huxley replied that he had pleasant recollections of Tasmania as it was forty-three years ago, and it would have interested him very much to revisit the colony and compare the present with the past, but he regretted that the state of his health prevented him from accepting the invitation.

One of the last surviving pupils of Dalton died at Bolton on October 6. Mr. William B. Watson was born at Bolton in January 1812, and educated at the local grammar-school. He afterwards studied for some years under Dalton at Manchester, and became so devoted to his teacher that he was chosen to help in the nursing of Dr. Dalton during the illness following his first paralytic seizure. Mr. Watson also assisted in many of Dalton's researches, and is mentioned by name in his papers in the Philosophical Transactions on the composition of the atmosphere as "an ingenious pupil of mine, Mr. William Barnett Watson." Mr. Watson had a wonderful store of anecdotes about his old master, and used to speak with pride of the great care he took in all his work. As an instance may be mentioned the pains he took to compensate for his colour-blindness. Dalton used to say that the bloom on a maiden's cheek and the colour of a faded green table-cloth seemed to him one and the same, and that he could only distinguish between the fruit and leaves on an apple-tree by their difference in shape. Dalton had a book containing different colours of floss silk, and below these he carefully noted the names given to them by non-colour-blind people, adding what the colour appeared to him to be. Careful methods such as these enabled him generally to give an accurate description of the colour of a precipitate. Mr. Watson carried on, together with his elder brother, Mr. H. H. Watson, a very extensive practice as an analytical chemist, and was much consulted in legal and commercial cases.

The death of Mr. Charles Smith Wilkinson, the Government Geologist of New South Wales, will be felt as a great loss, especially in his own colony. His enthusiasm in the cause of geological science, his extensive knowledge of the geological features of Eastern Australia, and his admirable personal qualities had made him greatly valued. Mr. Wilkinson was an original member of the Linnean Society of New South Wales, and president of that Society in the years 1883 and 1884. His death, which took place at the age of forty-seven, on the 26th of August, was announced to the Society on the evening of the same day.

La Nature announces the death of Prof. Edouard Lucas, who presided over the Sections of Mathematics and Astronomy at the recent meeting, at Marseilles, of the French Association for the Advancement of Science. A pile of plates fell one day after dinner while he was at Marseilles, and he happened to be struck in the cheek by a fragment of the broken earthenware. The hurt became more and more troublesome, and after his return to Paris he died of erysipelas. M. Lucas was forty-nine years of age. He was a brilliant lecturer, and the author of several valuable books, the most important of which is his "Récréations Mathématiques."

APPLICATION has been made for 20,000 square feet of space for the electrical display from Great Britain at the "World's Fair" at Chicago. *Electricity*, the new weekly journal published at Chicago, remarks that this application should "set at rest all doubts in regard to the extent of the exhibit to be made by British manufacturers of electrical apparatus."

MR. C. E. KELWAY is now showing at the Royal Naval Exhibition an invention which promises to be of great practical value. It consists of an apparatus for marine and general electrical signalling. A number of electric incandescent lamps are placed in a suitable frame, from which insulated wires are led to a key-board, similar to those used in type-writers, or compound-switch. A key is appropriated for each letter of the alphabet and for numerals. On this key being depressed the electric current is switched on to the lamps representing the corresponding letter, which is at once shown to the observer. On the pressure being removed the lights disappear, and the next letter, or numeral, is in like manner shown, the words being spelt out at a rate more quickly than by the Morse system. Mr. Kelway claims that the applications to which this invention can be put are numerous. It might, he thinks, be of great service in naval tactics, and prove invaluable for military purposes. He also points out that it would enable mercantile vessels to communicate readily with each other and with the shore.

A CORRESPONDENT asks whether there are any firms which supply magic lantern slides dealing with geological subjects.

THE marine laboratory of biology and zoology, which is to be instituted at Bergen next year, will be open to any foreign investigators who may desire to study the marine fauna of that part of Scandinavia.

THE complete list of subscribers to the memorial to Bishop Berkeley, which has just been issued, contains the names of Profs. Huxley and Tyndall, in company with the Archbishop of Dublin and a number of bishops and deans. Mr. Gladstone and Mr. Balfour meet together in the same list. The memorial is a beautiful recumbent figure by Mr. Bruce Joy, R.A., which has been placed in Cloyne Cathedral. The inscription to be placed on the monument has not yet been announced.

THE Sociedad Cientifica "Antonio Alzate," of Mexico, who have lately moved into new quarters, have just resolved to throw open their scientific library to the general public. They are appealing on this ground to all foreign professors and scientific authors to send copies of their works to the library.

THE Engineers' and Architects' Institute of Vienna have resolved to petition the Austrian Government that engineer attachés should in future be appointed to the embassies and legations in London, Berlin, Paris, St. Petersburg, Rome, Washington, and to one Oriental city to be hereafter selected.

THE Royal Horticultural Society has issued a list of fruits which might be profitably cultivated by cottagers and small farmers in this country. The list (to which are added notes on planting, pruning, and manuring) ought to be widely distributed. It contains all the information that is really necessary for the development of a most important industry.

ACCORDING to a telegram sent from San Francisco, a severe shock of earthquake was felt there on October 11, but no damage was done. At Napa, California, where a heavy shock was experienced, the chimneys were thrown to the ground, and several buildings were shattered. The State Insane Asylum is reported to have been damaged, fissures being made in the walls. The inmates were seized with panic.

WE take from *La Nature* of the 3rd inst. the following particulars respecting the destructive cyclone which visited Martinique on the 28th of August last. The curve of a Richard barograph shows that the barometer commenced to fall about 2 p.m., when it stood at 29·92 inches, while between 7 and 8 p.m. it fell from 29·72 inches to 28·70 inches. The wind at this time, too, reached its greatest violence, and continued with hurricane force for several hours, passing alternately from N.E. to South. The recovery of the barometric pressure was equally rapid, the reading being about 29·70 inches before 10 p.m. M. Sully, of Saint Pierre, writes that the lightning was constant, with varying intensity before and after the passage of the centre. The sound of the thunder was scarcely perceptible, owing to the howling of the wind and the noise caused by the falling roofs and houses. Globular lightning was seen on all sides during the hurricane; the country folks speak of globes of fire which traversed the air for several minutes, and burst about two feet above the ground. All the towns and villages were greatly damaged, the crops destroyed, and that usually verdant country presented the appearance of the depth of the most severe winter. The deaths are said to be 420 in number.

IN the review of September in the U.S. Pilot Chart, it is pointed out that the month was unusually stormy on the North Atlantic, as indicated by the storm tracks plotted on the chart. Two of these tracks, however, represent August storms, one of them being the track of the Martinique hurricane, and another the track of the hurricane that passed east of Bermuda on August 27. The Martinique hurricane, it appears, moved west-north-west along a somewhat irregular track, crossing over Puerto Rico, Turk's Island, Crooked Island, and lower Florida, finally dying out in the north-eastern Gulf. This unusual course makes it of special interest, and its failure to recurve seems to have been due, possibly, to the opposition of the Bermuda hurricane, in a manner similar to the deflection towards Vera Cruz of the Cuban hurricane of September 1888. The Bermuda hurricane appears to have originated about 300 miles S.W. of the Cape Verde Islands on August 19.

THE correspondent of the *Times* at Alexandria telegraphed on October 11 that three colossal statues, ten feet high, of rose granite, had just been found at Aboukir, a few feet below the surface. The discovery was made from indications furnished to the Government by a local investigator, Daninos Pasha. The first two represent in one group Rameses II. and Queen Hentmara seated on the same throne. This is unique among Egyptian statues. The third statue represents Rameses standing upright in military attire, a sceptre in his hand and a crown upon his head. Both bear hieroglyphic inscriptions, and both have been thrown from their pedestals face downwards. Their site is on the ancient Cape Zephyrium, near the remains of the Temple of Venus at Arsinoe. Relics of the early Christians have been found in the same locality.

WE learn from the *Brighton Herald* that a discovery full of interest to archæologists has been made in Sussex. During some excavations near the depot of the Artillery Volunteers at Southover, Lewes, the workmen uncovered as many as twenty-eight skeletons. They were all buried close to the surface, and within an area of about 130 feet by 50 feet. As there were skeletons of women as well as of men, it is concluded that the site was not that of a battle-field, but of a place of burial. A similar find was made in 1830 at Malling Hill, which is not far distant. The remains now found were accompanied by a large number of weapons and ornaments, the characteristic features of which point to the fact of their being Anglo-Saxon. The skeletons have been reinterred, but the weapons and other articles have been placed in the museum of the Sussex Archæological Society at Lewes Castle.

MR. CLEMENT L. WALKER, while carrying on geological work in South-Western New Mexico, has also been pursuing archæological researches in that most interesting region during the last two years. He proposes to publish a detailed account of his investigations, and in the meantime he briefly records some of them in the August number of the *American Naturalist*, On the east, west, and middle branches of the Gila River, in the Mogollon Mountains, there is an extremely rough, wild, and broken tract; and here, in the rugged cliffs, are found great numbers of ancient cliff-dwellings. Mr. Webster devoted considerable time to the study of these dwellings, making plans and sketches, and copying the drawings of many of the more interesting and extensive hieroglyphics painted on the rocks. One of these ancient pueblos of the cliff-dwellers is situated in a lofty cliff which forms the side of a deep, narrow canon extending out from the west branch of the Gila. This cliff-dwellers' village is in a fine state of preservation, and consists of upwards of twenty-eight rooms. Among the relics obtained in the rooms were specimens of several kinds of cloth, all made from the fibre of the Spanish dagger, matting of bear-grass. willow-work, sandals, cords of various sizes, feather-work, a ball and large skein of twine of the same material as the cloth, human and animal bones, stone utensils, great quantities of corn-cobs, corn, squash or pumpkin rinds, seeds and stems, corn-husks, beans, gourds, pottery, braided human hair of a brown colour, &c.; and last, but by no means least, a perfectly preserved cliff-dweller mummy. This was a mummy of a small child, with soft brown hair, similar to that found braided, only finer. It was closely wrapped in a considerable amount of two varieties of coarse cloth, woven from the fibre of the Spanish dagger, then wrapped in a large nicely-woven mat of bear-grass, and tied on by cords of the same material as the cloth to a small curiously-shaped board of cotton-wood.

SOME fine caves have lately been discovered near Southport, Tasmania. At the meeting of the Royal Society of Tasmania in June, an account of them was given by Mr. Morton, who had visited them. They are situated about four miles from Ida Bay, and a fairly good road leads to them. The entrance is through a limestone formation. A strong stream flows along the floor of the chambers. The first chamber reached by Mr. Morton and those who accompanied him showed some fine stalactites, and along the floor some fine stalagmites were seen. On the lights carried by the party being extinguished, the ceiling and sides of the caves seemed studded with diamonds, an effect due to millions of glow-worms hanging to the sides of the walls and from the ceilings. Further on, several chambers were explored, each revealing grander sights. The time at disposal being limited, the party had to return after traversing a distance of about three-quarters of a mile, but from what was observed the caves evidently extended a distance of three or four miles. The only living creatures seen were the glow-worms. These caves, under proper supervision, should become, Mr. Morton thinks, one of the great attractions of the south of Tasmania.

IN the Quarterly Statement of the Palestine Exploration Fund, it is announced that the first volume of the "Survey of Eastern Palestine," by Major Conder, has been issued to subscribers. It is accompanied by a map of the portion of country surveyed, special plans, and upwards of 350 drawings of ruins, tombs, dolmens, stone circles, inscriptions, &c. It is also announced that the new map of Palestine, so long in hand, is now ready. This map represents both sides of the Jordan, and extends from Baalbek in the north, to Kadesh Barnea in the south.

MR. E. R. MORSE contributes to the October number of the *Engineering Magazine*, a periodical issued at New York, an interesting paper on marble quarrying in the United States. Within recent years the use of American marble both in cemeteries and in buildings has become very extensive. Various foreign marbles, such as the African Red, Belgium Black, and Mexican Onyx, are employed in the interior decoration of buildings; but only Italian marble can be said to come really into competition with the American product, and the importation of this stone into the United States amounts only to about one-sixth of the value of the marble produced and sold at home. The quarrying of marble is practically limited at present to Tennessee, Georgia, Maryland, New York, Massachusetts, and Vermont. Large and valuable deposits may exist elsewhere, but the expense of testing deposits is so great, and the chances that the product of new quarries may prove unsaleable are so numerous, that Mr. Morse thinks that new marble fields are not likely to be developed soon.

THE "basking shark" (*Selache maxima*, L.) is apparently no very uncommon visitor in New Zealand waters. In the new volume of the Transactions and Proceedings of the New Zealand Institute, Mr. T. F. Cheeseman, Curator of the Auckland Museum, describes a specimen, over 34 feet long, which was stranded near the mouth of the Wade River. Mr. R. H. Shakspere, of Whangaparaoa, who saw the specimen very shortly after it was stranded, has informed Mr. Cheeseman that every spring several individuals of the same species can be seen near the entrance of the Wade River, and along the shores of Whangaparaoa Peninsula. He believes that they visit these localities in search of their food, which he thinks is composed of small *Medusæ* and other pelagic organisms. They can be easily recognized from their habit of swimming on the surface of the water, a portion of the back and the huge dorsal fin being usually exposed. It is from this circumstance, taken with the fact that their motions are very often slow and sluggish, that they have received the name of the "basking shark." They are easily approached and harpooned, and on the west coast of Ireland as many as five hundred have been taken in a single season. The liver often weighs as much as two tons, yielding six to eight barrels of oil. A few years ago, when sharks' oil was of greater value than it is at present, the oil from a single full-sized specimen would often realize from £40 to £50.

AT the meeting of the Linnean Society of New South Wales, on June 29, Mr. Froggatt exhibited some living beetles (fam. *Curculionidæ*), which afford a good example of protective coloration. They were found at Wellington, N.S.W., on the trunks of Kurrajong trees (*Sterculia*), the bark of which they resemble so closely in tint and general appearance that it was quite by accident Mr. Froggatt first recognized their true character.

MESSRS. GAUTHIER-VILLARS have sent us the "Annuaire" for 1891 of the Municipal Observatory of Montsouris. It contains, as usual, a great mass of carefully selected and well arranged information. We may especially note a collection of old meteorological observations made at Paris, and the following papers: Parisian climatology, by M. Léon Descroix; chemical analysis of the air and of waters, by M. Albert Lévy; thirteenth memoir on organic dust in the air and in waters, by Dr. Miquel.

MESSRS. G. L. ENGLISH AND CO., New York, have found it necessary to issue a supplement to the catalogue of minerals which they published in June 1890. So great has been the demand for minerals that they had three collectors at work during the summer—one in Europe, another in the south-western part of the United States and in Mexico, and a third in Colorado.

THE new number of the *Journal of Anatomy and Physiology* opens with some valuable notes by Dr. R. Havelock Charles, on the craniometry of some of the outcaste tribes of the

Panjab. He presents a series of tables drawn from the measurement of fifty skulls collected by him in the comparative anatomy museum of the Medical College, Lahore. These skulls are, in Dr. Charles's opinion, from individuals of aboriginal as distinguished from Aryan progeny, with the exception of certain megacephalic examples among the group of Mohammedan male types. In these exceptional cases descent may be derived from the more recent Mohammedan invaders, who were distinct both from the Aryan possessors on the one hand, and from the dispossessed aboriginal races on the other.

THE Department of Public Instruction in New South Wales has issued a second edition of "Wattles and Wattle-Barks," by J. H. Maiden. It appears as No. 6 of the Technical Education Series. The pamphlet is intended to supply Australian farmers, tanners, merchants, and others with authentic information in regard to the value of wattles. According to the author, the demand for good wattle-bark becomes greater every year, and the supply does not cope with it. The word "wattle," we may note, has become in Australia practically synonymous with "acacia."

AN interesting experiment has been lately made by M. Chabry, of the Société de Biologie, with regard to the pressure which can be produced by electrolytic generation of gas in a closed space. While the highest pressure before realized in this way was 447 atmospheres (Gassiot), M. Chabry has succeeded in getting as high as 1200; and the experiment was broken off merely because the manometer used got cracked (without explosion). The electrolyzed liquid was a 25 per cent. soda solution. Both electrodes were of iron: one was the hollow sphere in which the gas was collected; the other an inner concentric tube. The current had a strength of 1½ ampere, and was very constant during the experiment, which was merely one preliminary to a research in which very high pressures were desired.

THE first series of lectures given by the Sunday Lecture Society begins on Sunday afternoon, October 18, in St. George's Hall, Langham Place, at 4 p.m., when Sir James Crichton Browne, F.R.S., will lecture on "Brain Rust." Lectures will subsequently be given by Mr. Frank Kerslake, Mr. Walter L. Bicknell, Mr. W. E. Church, Prof. H. Marshall Ward, F.R.S., Mr. A. W. Clayden, and Sir Robert Ball, F.R.S.

AN important paper upon persulphates is contributed by Dr. Marshall, of Edinburgh, to the October number of the *Journal of the Chemical Society*. The anhydride of persulphuric acid, S_2O_7, was obtained by Berthelot in the year 1878, by subjecting a well-cooled mixture of sulphur dioxide and oxygen to the silent electrical discharge. He afterwards found that a substance possessing oxidizing properties, and which appeared to be persulphuric acid, was formed in solution during the electrolysis of fairly strong solutions of sulphuric acid; it appeared, in fact, to be identical with the substance obtained by dissolving his crystals of S_2O_7 in water. The anhydride does not dissolve in water without partial decomposition, a considerable proportion decomposing into sulphuric acid and oxygen, and hitherto no salts of persulphuric acid have been obtained in the solid state. Dr. Marshall has now succeeded in obtaining the potassium, ammonium, and barium salts in fine large crystals. During the course of an experiment in which an acid solution of potassium and cobalt sulphates was being electrolyzed in a divided cell, it was found that a quantity of small colourless crystals separated. A solution of these crystals in water gave only a faint precipitate with barium chloride, but on warming barium sulphate slowly separated and chlorine was evolved. The solution also liberated iodine from potassium iodide. The crystals were, in fact, potassium persulphate, KSO_4. It was next sought to prepare them from hydrogen potassium sulphate. A saturated solution of this salt was submitted to electrolysis in a similar apparatus, and at the end of two days a white crystalline deposit of potassium persulphate commenced to form. The crystals were from time to time removed until a considerable quantity of them had been accumulated. These, when recrystallized from hot water, yielded large tabular crystals, and sometimes long prisms when formed at the surface of the liquid. Analyses of pure samples yielded numbers agreeing perfectly with the formula KSO_4. From determinations of the conductivity of dilute solutions it would appear that the correct molecular formula is KSO_4 and not $K_2S_2O_8$. On ignition of the salt, oxygen and sulphuric anhydride are evolved and potassium sulphate is left. The crystals are not very soluble in water, 100 parts of water at 0° dissolving 1·77 part of KSO_4. The aqueous solution gradually decomposes, hydrogen potassium sulphate being formed and oxygen liberated. The pure freshly prepared solution is neutral to test paper. The solution yields no precipitate with any other salt by double decomposition, the persulphates of most other metals appearing to be more soluble than potassium persulphate. A solution of lead hydrate in potash yields a precipitate of lead peroxide on boiling. With silver nitrate no immediate precipitate is formed, but the liquid gradually acquires an inky appearance and after some time a black precipitate of silver peroxide, AgO, is deposited. It would appear that silver persulphate is dissolved by water. Fehling's solution gives a red precipitate of copper peroxide. Ferrous sulphate is rapidly oxidized to ferric with considerable rise of temperature. Organic colouring matters, such as litmus, are bleached. Alcohol is oxidized to aldehyde in presence of water, but absolute alcohol has no action on solid potassium persulphate. The pure crystals have a cooling saline taste, which leaves a peculiar after-taste. The impure salt evolves ozone slowly. Freshly prepared crystals have no odour, but after a time they emit a peculiar pungent odour quite different from that of ozone, and which appears to be due to persulphuric anhydride. When warmed with concentrated nitric or sulphuric acids the oxygen is liberated largely in the form of ozone. With hydrochloric acid chlorine is evolved. The ammonium salt NH_4SO_4 has been prepared in a similar manner; it crystallizes in long prisms and much resembles the potassium salt. The barium salt crystallizes in beautiful large interlocking prisms containing four molecules of water of crystallization.

THE additions to the Zoological Society's Gardens during the past week include a Macaque Monkey (*Macacus cynomolgus* ♂) from India, presented by Mr. J. Barratt Lennard; a Rhesus Monkey (*Macacus rhesus* ♀) from India, presented by Miss Corrie Chisholm; two Common Marmosets (*Hapale jacchus*) from South-east Brazil, presented by Mrs. Frederick Betts; two Bernicle Geese (*Bernicla leucopsis*), two Brent Geese (*Bernicla brenta*), European, presented by Mr. Cecil Smith; a Gamet (*Sula bassana*), British, presented by Dr. Davis; eleven Gold Pheasants (*Thaumalea picta* ♂s), two Amherst Pheasants (*Thaumalea amherstiæ* ♂ ♂), two Silver Pheasants (*Euplocamus nycthemerus* ♂ ♀) from China, a Common Pheasant (*Phasianus colchius* ♂), British, four Ruddy Sheldrakes (*Tadorna casarca*), European, presented by Mr. Edwin J. Poyser; a Common Chameleon (*Chamæleon vulgaris*) from North Africa, presented by Mr. F. Manners; a Macaque Monkey (*Macacus cynomolgus*) from India, deposited.

OUR ASTRONOMICAL COLUMN.

MEASUREMENTS OF LUNAR RADIANT HEAT.—Numerous measurements of lunar radiant heat have been made at Birr Castle Observatory by Lord Rosse and Dr. Copeland, and the results obtained have been published from time to time. During the total lunar eclipse of October 4, 1884, Dr. Otto Boeddicker,